In his visual tests two lists of words were placed upon the blackboard and covered. The first test was then exposed for thirty seconds, and the second list was exposed at the rate of one word every two seconds (thirteen short familiar words in a list). This test was tried on pupils ranging from eight to fifteen years of age, and revealed the fact that successive visual memory is much better in the younger pupils than simultaneous visual memory, there being a difference of 22 per cent. at the age of eight, while there was a difference of only 1 per cent. at the age of fifteen. In students from fifteen to twenty years of age it was found that simultaneous exposure gave a much better memory than successive exposure.

Auditory memory was found to be much better than visual memory in pupils from eight to twelve years of age, a fact probably due to their being accustomed to a large amount of auditory work. A like reason, probably, accounts for the fact that students ranging from fifteen to twenty years of age showed a much better visual than auditory memory. CHRISTISON.

"REACTION TYPES." Psychological Review, May, 1897.

Farrand (Columbia) tested the two noted pianists, Rosenthal and Sieveking, as to their reaction time to sound. The Hipp chronoscope was used, and they were to raise the two forefingers of the right hand when the signal was given by a tap with a metal hammer. Neither subject knew that the other was to be tested. Rosenthal made seven records as follows (times in 0): 110, 118, 119, 112, 119, 123, 123, giving an average reaction time of 117.7, and an average variation of 3.8. Sieveking's reaction time was 114, 114, 117, 120, 108, an average of 116.6, and an average variation of 2. No instruction as to attention was given either subject, but Rosenthal declared his entire attention was on the signal, while Sieveking was as positive his attention was on his reacting hand. Rosenthal repeated the experiment, this time giving his attention to his reacting fingers instead of the signal. The result was, 250, 230, 270, 268, an average of 254.5, and an average variation of 14.5. Sieveking was asked to react with his attention on the signal instead of on his hand as before. He attempted to do so, but declared it impossible and declined to proceed. The musical training and characteristics of these two artists are said to be diametrically opposed.

Cattell (Columbia) thinks these experiments support the idea "that people react most quickly and regularly in the way in which they were used to reacting, and that when the reflex character of the reaction is disturbed, the times become longer and more irregular."

Baldwin (Princeton) remarks, in opposition to Wundt: "The existence of 'types' of simple reaction can no longer be ignored by anyone." CHRISTISON.

IS TRIONAL A USEFUL HYPNOTIC, AND DOES IT POSSESS ANY ADVANTAGES OVER SULFONAL? By Prof. J. Von Mering, Halle (New Eng. Med. Monthly, Jan., 1897).

It has been observed that in certain individuals sulfonal has a cumulative action leading to a severe disturbance of the general health (hæmatoporphyrinuria), which in some cases lead to a fatal issue. In many cases in which the dosage had been carefully regulated the action was continued beyond the desired period. Experiments showed that trional has all the useful properties of sulfonal in a higher degree, while the undesirable effects are absent or less marked. Morro found that trional was more easily and completely decomposed within the organism, and that the ultimate products were more easily eliminated. Since the introduction of trional six cases of toxic phenomena have been observed. In two or three of these hæmatoporphyrin was found in the urine. Beyer concludes that the toxic phenomena are not wholly due to the specific action of the trional, but must in part be referred to other causes and complications. No fatal case from a single large dose has yet been reported, although such must be possible, judging from experiments on animals. Three observers noted excretion of hæmatoporphyrin in human subjects who had never taken either sulfonal or trional. In one case of severe anæmia this was observed. Therefore it is questionable whether this is to be considered as a direct result of the action of these agents. From personal experience and that of sixteen distinguished colleagues, it follows that we have no hypnotic to be preferred to trional. In only one of the reports received has it been ranked as on equality with sulfonal. Some have ceased to use sulphonal. It is true that hæmatoporphyrinuria has been observed in a few cases after trional also, but it is much more rare and is easily avoided and disappears when the drug is stopped.

In the sleeplessness following bodily pain trional may also give good service when 1.0 gm. is combined with 0.005 gm. of morphine. In spite of all investigations, we have not arrived at any explanation of the occurrence of hæmatoporphyrinuria. It may be regarded as proven that in the human subject it is more easily produced by the long-continued use of sulfonal than trional, and that when it does appear other factors must always co-operate, such as deficient nutrition, pre-existing depreciation of the general system, or some other unknown factors. Of the hypnotic and sedative drugs now at hand it can be safely said that for the greater number of cases for which they are appropriate, trional will be awarded first place. The complications and other effects of trional usually are lighter in degree, and by the exercise of a little caution can be avoided as far as any practical importance is concerned. A continuous protracted daily administration of trional should be abandoned: it is almost always superfluous. If a continuous sedative is needed, the administration of trional should be varied by the use of other hypnotics. When there is a protracted effect and somnolence on the following day, it is an indication to lessen the dose. In the great majority of cases 1.0 gm. doses are quite sufficient. If it is necessary to increase the amount, there is often a brilliant result by raising it merely 0.25 gm. There are some cases requiring 2.0 gm., but these are very rare. That a temporary suspension of the medication is much more necessary in the case of large doses than with smaller ones is self-evident. FREEMAN.

SECONDARY DEGENERATIONS FOLLOWING FOCAL HEMORRHAGES.

Drs. G. Dotto and E. Pusateri, of Palermo, have undertaken to study the alterations in the nerve cells of the cerebral cortex secondary to intracerebral focal hemorrhages, and the connection between the cortex of the island of Reil and the capsula externa in man. (Rivista di Patologia Nervosa e Mentale, Jan., 1897). As a result of their studies they feel warranted in drawing the following conclusions:

1. That following intracerebral focal hemorrhages there are secondary atrophic processes in the cerebral cortex of the hemisphere of the same side.
2. That these alterations are not uniformly diffuse, and interest in different degrees the nerve elements.
3. That the cortex of the island of Reil in man *is* in connection with the external capsule.